

COLORADO BLM ECOSYSTEM MANAGEMENT STRATEGY

INTRODUCTION

The Need For Change: Over the past few decades, natural resource management issues have become progressively more divisive and complex. Our growing population is placing more and increasingly diverse demands on natural resources and the public lands that support them. When conflicts arise between competing interests, people often seem unable to find common ground and compromise, but instead line up rigidly on either side of debate. Too often, science does not provide creative solutions, but instead fuels debate as each side finds the scientific information they need to support their position. The processes used by government to incorporate citizen input and balance competing interests have increasingly given way to legal and political processes for decision making. This has removed the decision making authority from the affected locality and reduced local support and responsibility for any actions taken. Underlying all of this is the health of the land. And a growing body of evidence, such as the decline of salmon, more intense forest fires, the closure of logging mills, and continued decline of many species, indicates that all is not well. Clearly, there is a need for change.

Vision for the Future: As we examine ways to correct this situation, it appears that our future should be guided by at least three principles:

(1) Better human and community relationships need to be fostered in the interest of a more common and sustainable future. (2) Natural systems, including native plant and animal communities, need to be restored and maintained at levels that sustain human uses and values. (3) The role of government needs to change to support shared responsibility among citizens and industry for achieving environmental, social, and economic objectives.

Using these principles, Colorado-BLM adopts the concept of ecosystem management (ESM) and defines it as a process of people and science working together for landscape health and human well-being. Based upon this definition, BLM envisions a future in which stakeholders, the community of people and their governments, develop a shared sense of place. Working together they promote trust with each other and form common goals based on the best information available. They share responsibility to achieve those goals and continue to develop, evaluate, and share new information while doing so. Both individuals and communities are empowered with the knowledge and responsibility to work together in the common interest, and in the interest of future generations. A land ethic evolves that promotes bringing human uses into harmony with the environment.

In this scenario, BLM-Colorado fosters a sense of partnership with and among communities, public land users, and all other interests. We support these partnerships by insuring that the best available science, information, and technology is made available to promote understanding of ecosystem sustainability and sound natural resource management, using modern information systems to help us do so. BLM-Colorado adapts its regulatory functions, policies, and administrative practices to reward responsible land stewardship, but takes effective action to correct natural resource damage when otherwise warranted.

Strategy Format and Content: This strategy is designed to lay the groundwork through which BLM-Colorado prepares for this future. It is not intended as a manual on ESM. Instead it is aimed specifically at transforming BLM-Colorado into an organization governed by the three principles stated above. Preparing for this future implies new ways of working with people, other agencies, and interests with a redirection and renewed emphasis on science. Accordingly, the strategy is broken down into three sections:

Section I concerns "community-based land stewardship" (CBLS), a phrase that captures the idea that the goals of ecosystem management can really only be achieved through shared ownership and responsibility of citizens and government. Section II lays out a plan for supporting "ecosystem-based science", with a new orientation towards understanding the ecological, physical and social characteristics

of landscapes. Section III contains a number of supporting actions that will enable BLM to reorient its resources to better support CBLS and ecosystem-based science.

Within each section is a list of actions that need to be taken. Each action contains discussion of purpose and guidance for implementation. This information will enable the reader to understand the relationship between the action and the overall vision described above. The sequence of the sections and actions does not imply an order of importance. All sections are interdependent, and implementation should be approached in that manner.

Much of this strategy was developed after reviewing work related to ESM that is already occurring in the State. We will continue to incorporate the experiences and creativity of all employees in the state. Implementation will be pursued with broad internal participation, as well as with input from other agencies and interests. The success of the strategy depends on the input and involvement of as many employees and external associates as possible. During implementation, the strategy calls for the broad evaluation of our present programs, functions, and organizational relationships. We need to sort out essential and non-essential work, coordinate better as an organization, and adopt new ways to work more efficiently. A wide range of partnerships may help support these outcomes.

Assumptions and Expectations: The strategy should be viewed in the following context:

1) An evolutionary process will be required before Colorado BLM will be fully able to support ecosystem management. This process will depend upon continued learning and information sharing. These activities are specified in the strategy. 2) The pace of transformation will probably be varied among areas and programs. The amount of change each employee experiences in their work will vary. 3) Reliance on partnerships is not necessarily a panacea. Colorado-BLM's responsibilities toward the American public and to law will not be diminished, and hard choices will still need to be made. 4) New financial resources are not likely to be made available for this effort. New workloads will need to be handled through eliminating some existing work and finding ways to become more efficient. 5) Moving to ecosystem management will be a continuum of changes, some small, others large, and we are already underway. This strategy should help support existing successes, and provide some consistency across the state as we change. 6) This strategy for ecosystem management can be accomplished within a wide variety of organizational models and will not be affected by recent organizational adjustments.

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SECTION I

COMMUNITY BASED LAND STEWARDSHIP

To date, a principal role of BLM has been to reconcile differences among competing social, economic, and environmental values for the public lands. Through ecosystem management these different values should become viewed as interdependent, rather than competitive. Balancing these values to restore and maintain ecosystem health cannot be accomplished by BLM alone. It will require broader understanding, ownership, and responsibility among all public land interests. New processes for citizens, government, and science to work together in the common interest are needed.

Numerous examples of community-based land management are emerging across the country in which citizens and government are sharing responsibility. This strategy uses the term "**Community Based Land Stewardship**" (CBLS) in reference to this concept. CBLS might be viewed as a social process, not ruled by government procedures, but by the commitment and interaction of all involved. Enough has already been learned from the more successful efforts to identify some of their important characteristics. These include:

(1) establishing a relationship among interested parties in which different values can be objectively discussed; (2) support by leadership of all interests involved; (3) free-flow of important information; (4) tying the community interest to a specific landscape, often a watershed, but other landscapes as well; (5) having a source of information to support understanding of the environmental, social, and economic features of that landscape, including its relationships to other areas; (6) evaluating management options before their implementation; (7) pooling of resources to achieve common goals; and (8) adjusting management actions as new information becomes available.

The CBLS concept is already being adopted throughout Colorado by BLM and other state and federal agencies. CBLS potentially will create a much more effective environment for managing the public lands while serving a variety of uses, including livestock grazing, energy and mineral production, recreation, realty actions, and others. However, we are still very much at the beginning and much remains to be learned. The final measure of success will be the health of the land. The following strategy is designed to initiate processes within BLM-Colorado to wisely promote CBLS in the interest of ecosystem health and economic progress. While pursuing this strategy, BLM cannot ignore its responsibilities to the law, nor to the land. A careful balance between CBLS and regulation will be required.

ACTIONS:

I-1. Assign roles and responsibilities at all organizational levels to foster an understanding of BLM's participation in Community Based Land Stewardship (CBLS). Purpose: To develop local "change agents" for CBLS and promote new processes for citizens and government to work together in achieving land health in harmony with social and environmental objectives.

Guidance and criteria: Locally, this change agent role can be assigned to individuals in resource areas and/or to a team comprised of both RA and DO personnel. In many cases, individuals assuming this role already will have been fostering partnerships out of their own interest and orientation. Trust with local public land users is a needed skill, but so is an orientation to the management of natural systems. This is a relatively rare mix of skills and should be specifically sought. These skills cannot be taught but can be enhanced through training and teamwork. Resource areas should evaluate whether they can support full-time positions in this capacity. Collateral duties may be far less effective. These skills may not exist in all RA's and may need to be recruited from other locations. The roles of persons assuming this responsibility are to: · promote viable and healthy CBLS motivated by citizen interest · communicate with other people in this role across the state concerning techniques, successes and failures, and make that information available to members of all partnerships · avoid the promotion of partnerships solely as a funding vehicle · work with management to provide understanding, coordination, and support for CBLS · ensure that BLM clearly communicates with all partnerships concerning the role of BLM · help develop skills and authorities needed for BLM representatives to support CBLS work · continually evaluate what types of support BLM should provide to partnerships, as well as BLM's effectiveness in providing that support · serve as BLM representative to CBLS efforts, as assigned · ensure that partnerships have access to the best available science information or expertise · provide or coordinate training for partnership members in group dynamics, ecosystem-based science, and utilizing scientific information for decision making · ensure that national and BLM interests are represented · retain the ability of management to take remedial actions when necessary

I-2. Identify individuals possessing other skills and expertise that may be needed for CBLS.

Purpose: To identify people with a variety of skills that may be needed to support CBLS. Many people with these needed skills and expertise may not be evident because they are now working in unrelated areas.

Guidance and Criteria: Perform this action in a manner which encourages people to step forward and make their interests known. Include language skills, working with Native American cultures, and skills in human relations and behavior as possible needs for CBLS. To fully support CBLS, participation at all organizational levels will be important; identify skills accordingly.

I-3. Develop better contact with communication networks at the community level. Purpose:

Improve BLM's ability to interact with local interests to ensure better understanding and trust.

Guidance and criteria: Take steps to understand and delineate specific socio/cultural geography as a foundation for this effort. Consider locating BLM personnel in communities and locations where BLM has a significant land base but no office. Consider coordinating with other agencies for jointly funding and/or locating people in these remote locations. Train these people on how to more effectively connect to local social networks. Training should include: · the relationship between informal community networks and formal government processes · how to more effectively merge government decision-making processes into community networks to enhance bilateral understanding, support, and ownership at the local level. Participants in the training will develop a plan for continued communication, meetings, and information sharing among themselves.

I-4. Form a statewide "CBLS Team" comprised of persons identified under Action I-A1, and other personnel from District and State Offices. Purpose: To identify and promote changes in BLM culture and the procedures needed to promote and sustain successful CBLS efforts across the state.

Guidance and criteria: This team would provide guidance to the SMT on matters that need to be addressed culturally, organizationally, and procedurally within BLM to succeed in CBLS. Membership in the group might grow and change over time, eventually to include participants from other agencies. Members of this team will regularly communicate with the science networks recommended in Section II. Communication among these teams will help promote the needed relationship between science and CBLS. Meeting locations will move around the state, allowing team members to view different partnership efforts and interact with stakeholders. Needed skills, expertise, and techniques will be continually refined through discussion, feedback, and objective evaluation of successes and failures. A process for evaluating partnerships will be developed which addresses questions such as: · What is the best way to develop trust among CBLS participants? · Are all public land interests being represented? · What tools does the partnership need to move forward (alternative dispute resolution, team training, etc.)? · Are all existing partnerships still needed and/or viable? · Are national objectives being effectively addressed? A process for evaluating BLM's role in each ecosystem-based partnership should be developed, addressing questions such as: · Is BLM providing responsive administrative support? · Is BLM providing appropriate training to partnership members? · Is BLM bringing useful and reliable information to the partnership? · Is BLM providing sufficient resources to support CBLS? · Is BLM within the legal constraints of the Federal Advisory Committees Act? The criteria and completed evaluations should be used for allocation of resources statewide and for guiding information-sharing efforts.

I-5. Develop a process for reviewing and adjusting policy to support CBLS. Purpose: To support ownership and creativity in problem solving through CBLS. Policy review might be conducted on a multi-agency basis when more than one agency is involved.

Guidance and Criteria: The CBLS network will regularly review policies that appear to inhibit solutions on the ground (both BLM policies and those of other agencies). Give first attention to those policies which are most inhibiting or common to several CBLS efforts across the state. The Colorado Ecosystem Partnership (CEP) is a vehicle to help promote consistent policy among agencies. The desired outcome of the process is prompt review and feedback to BLM partners concerning adjustments made or the reasons why they can't be made.

I-6. Provide effective administrative support to serve CBLS. Purpose: To avoid diminishing CBLS momentum due to unnecessary delays in administrative support, and to ensure that BLM is a viable partner for shared resources.

Guidance and Criteria: The CBLS network will identify administrative problems and opportunities that need to be addressed by the SMT. Focus on administrative processes that may be needed to support CBLS, including memorandums of understanding, interagency agreements, contracts, financial support, etc. Needed BLM resources must be made available in a timely manner to support viable partnerships.

I-7. Create a network for sharing information among CBLS partners statewide. Purpose: To

encourage CBLS partners across the state to communicate and use their own experiences to facilitate the success of others.

Guidance and Criteria: The Colorado Ecosystem Partnership (CEP) Education Committee has published a statewide listing of partnerships. BLM can adopt the format and use it for its specific purposes. The focus is to serve CBLS partners, as opposed to agency personnel and managers. Tools such as conferences, tours, newsletters, and electronic bulletin boards might also be used, in addition to the format developed by CEP. The information conveyed by the network should include the following about each partnership: · location and boundaries · contact names and phones · issues, future vision · land management practices being developed (successes, failures, new ideas, etc.) · sources for funding and expertise

SECTION II:

ECOSYSTEM BASED SCIENCE

To restore and maintain the ecological health of the public lands, BLM and its community partners need new and better scientific information about the natural systems upon which communities depend, and the relationship of natural systems to each other at different landscape scales. BLM also needs better social and economic information to support its partners and ensure informed decision-making.

The specific information needs include the following:

knowledge of natural systems and processes important to sustaining land uses, community needs, and social values habitat requirements for native plants and wildlife how to manage landscapes to support biological diversity understanding scale and relationship of one land unit to another options for restoring and maintaining ecological health at different land scales how to restore watershed integrity and improve hydrologic functioning how to manage plant communities to restore ecological health and vitality how fire and other natural disturbances function relative to landscape health thresholds to resiliency in plant and animal communities new social and economic information related to sustaining communities and quality of life demographic information information on traditional and emerging cultural and social values

In addition, before this information can be useful, it must be understood and trusted as reliable and relevant by citizens, stakeholders, the academic community and government alike. Only then will it be influential in helping to shape a more common land ethic among presently competing interests, and help people to devise better solutions than can be enacted by government alone. Sharing information among a variety of participants is essential to improve our understanding of ecological health. However, BLM's involvement in science should be guided primarily by the objective of serving land managers and their partners on the ground. These are the people who make the decisions, not the scientist.

Here's how BLM intends to meet this challenge.

(1) BLM will create teams and networks of various specialists and data managers within BLM-Colorado. Teams would work together and with other sources to pursue the best information possible for ecosystem management, while networks would foster rapid sharing of information and promote institutional as opposed to individual knowledge. These activities should be performed without bias to individual programs but be oriented to understanding ecosystem function and health relative to the uses made of the public lands.

(2) BLM will develop landscape hierarchies to provide a structure for organizing teams and information at several landscape scales. The field level is emphasized because overall function of a landscape depends upon the health of the individual site. Some issues will require us to look at different landscapes than originally designed. To meet those needs, ad hoc teams comprised of needed expertise will be formed to assess the landscape in question.

(3) BLM will design processes through which science teams and networks can work together to collect and analyze information. These processes will provide the means to gain consensus on what is known about ecosystem health, to agree on what needs to be known, and to cooperate in gaining new knowledge.

(4) BLM will effectively communicate this knowledge at the local level. BLM's use of science should be guided by the idea of respecting and contributing to the local wisdom, with mutual sharing of information. Consideration will be given to enhancing BLM's field based expertise through new career ladders and tenure.

The specific actions in the strategy are as follows:

ACTIONS:

II-1. Select hierarchical classification systems for biophysical and socio-economic landscape features. Purpose: The landscape hierarchy is a framework for organizing data, information, and expertise. Issue driven landscape units can be served individually by pulling together expertise from this hierarchy. Two landscape characteristics, biophysical and socio-economic, will be considered. Taken together, these characteristics will depict the interrelationship of natural systems to each other, and to their associated human settlement and use.

Guidance and Criteria: Efforts to establish consistency for major landscape stratification is already occurring between BLM, FS and Natural Resource Conservation Service (NRCS). Colorado's largest landscape units will ultimately be consistent with these results. For intermediate scale landscape units, consider both biophysical and socio-economic features to help connect people and communities to functional landscape units, such as watersheds. Base at least one of the smallest landscape units on plant communities or associations to ensure an understanding of ecological health at the site level.

II-2. Map and digitize landscape units and make available to all offices. Purpose: To initiate a state-wide GIS platform based on natural systems. This action will not preclude the use of data systems for other types of spatial information needed at the local level.

Guidance and Criteria: Centrally coordinate and make available to all offices the delineation of major landscape units. Smaller delineations will require more time and likely involve a number of simultaneous efforts across the state. Ensure edge consistency between individual units prior to distribution. Determine a central, accessible storage location for all these units to assure availability to adjoining states, to assure data integrity, and to provide updating and maintenance of this data.

II-3. Evaluate existing program data sets to identify essential and non-essential data. Purpose: This action determines which existing information should populate the new data management system based on its utility in supporting CBLs and/or management decisions. It is necessary to set priorities for data population to avoid cluttering the system with less useful data and to assure that ongoing management priorities are served.

Guidance and Criteria: Identify data needed to support decisions (e.g. range use adjustments, closures, recreation carrying capacity, etc.). Define corporate versus individual data. Evaluate whether existing monitoring data is objective driven.

II-4. Describe ecosystem attributes needed to understand ecosystem health at different landscape scales. Purpose: This action combines elements of ecosystem structure and function over a variety of scales to form an integrated, evolving understanding of ecosystem health. These attributes will provide a common basis for evaluating and monitoring ecosystem health across BLM-Colorado and beyond. They will also generate new ecosystem data elements which will be an important part of the landscape data management system. This action supports the transition from the traditional programmatic focus to the understanding of natural systems and their uses.

Guidance and Criteria: Consider such elements as biological diversity (community, population, and

genetic), energy and nutrient cycling, food webs, guild functions, productivity and vigor, hydrology and water cycling, corridors and barriers, natural disturbance regimes, migration patterns, invasions and the functioning of non-native species for inclusion in the guidelines. Also consider socio-economic elements, including diversity and sustainability of economies and cultures as elements contributing to landscape health. Tie the elements to the size of landscape unit at which they are most pertinent. These elements are not expected to be final, but rather to start inquiry and dialogue on the subject of landscape health. They will evolve over time as new understanding is gained.

II-5. Develop standards for shared data in the landscape data management system. Purpose: Data standards are essential to information sharing among all participants, both inside and outside BLM. They also enable participants and users to effectively interpret and analyze data, compare data sets, and aggregate data across landscape units.

Guidance and Criteria: Interface with national principles and regional standards and guidelines. Seek expertise from universities, other agencies, non-government organizations, etc. to help develop these standards. Guard against constraining methods for data collection. Give the landscape data management system the capability to accept new attributes as they are needed.

II-6. Design and implement a landscape data management system that incorporates ecosystem data elements, data standards, and the landscape hierarchy. Purpose: This action establishes the data management framework needed to develop and provide useable ecosystem information for CBLS activities. By enabling the sharing and aggregation of data and facilitating data analysis, the system will foster continuing improvement in user's understanding of land health and management effectiveness across the state. It will support the work of science teams, and help specialists and land managers incorporate ecosystem health considerations into daily operations.

Guidance and Criteria: Design of this system needs to address location and availability of hardware and software, data system managers, and network connections to ensure efficiency and integrity for data input, storage, analysis, retrieval, and update. Provide the means to tie individual data to biophysical and socio-economic hierarchies. Design the system to allow information access and data contribution by academia and other interested parties. Incorporate user friendly and flexible means for data analysis into the system should (i.e. translating data to knowledge). Manage the landscape data management system to ensure that only credible, reliable information is incorporated into shared data; however, the system should be flexible enough to encourage individual initiative and experimentation. Incorporate built-in mechanisms for expansion and revision into the system, as ESM information needs will likely evolve over time. Designate a person in Colorado State Office to expedite data sharing among agencies, universities, non-government organizations, etc. Establish ways to provide for consistent data input and maintenance of system and data. Provide for continued improvement of databases. Assure conformance with established data standards. Address the issues of quality control, standardization, information sharing and interpretation, peer review, and guidance on all information/data storage activities. Set conditions for input of information into the system with minimum metadata standards.

II-7. Identify science expertise available in BLM for ecosystem science, and expertise available elsewhere. Purpose: This action specifies types and documents sources of scientific expertise that should be included in networks and science teams. It also sets the stage for reconstructing workloads and responsibilities, as discussed the Section III, Action A-5. By recognizing both local and regional sources of expertise from outside BLM, including public land users, a sense of partnership among all interests will be encouraged.

Guidance and Criteria: Establish criteria for use in skill assessment which is used by each office to conduct its own evaluation. Make every effort to use existing BLM expertise to fill science needs, but recognize that all expertise requirements cannot be met by doing so. Consider expertise in ecology, biological sciences, physical sciences, socio/economics, and other aspects of landscape health. Incorporate expertise in the traditional resource management sciences. Provide and make available a directory of expertise sources; this can include a database of skills and expertise held by BLM employees within and outside of Colorado, together with a listing of people outside the BLM with needed specialties and expertise. Consider recruitment, interagency agreements, experts held on retainer,

and contracting as some of the possible means of obtaining needed expertise.

II-8. Design and implement formal science teams and networks to operate at the various levels of the landscape hierarchy. Purpose: This action addresses how Colorado-BLM might reorient its scientific personnel away from program biases towards understanding natural systems, processes, and functions associated with entire landscapes and their component parts. The landscape hierarchy provides a framework for creating teams focused on understanding each land unit, from the smallest to the largest. Networking these teams and other expertise, including BLM resource specialists, will support collaboration, information sharing, learning, and consensus building. The result should be a more unified source of information and knowledge to serve CBLS efforts and managers.

Guidance and Criteria: Individual team members should focus their efforts on science independent of other, routine priorities. A largely separate body of science personnel is needed to provide CBLS and the local manager the best information possible. Membership on teams does not imply that people should be relocated or centrally housed; there are benefits to having team members working across organizational and administrative boundaries: resident knowledge is developed at all locations. Field-based BLM expertise would work together to understand the smallest landscape units (i.e. range sites and local plant and animal communities). Both field-based expertise and expertise at other organizational levels would work together on the largest and intermediate sized landscape units. Teams can be assembled from a variety of sources to deal with individual issues as they arise. Networks and teams that link people both horizontally and vertically are recommended. Include external people in networks and teams. Investigate the use of electronic bulletin boards for establishing quick information exchange on specific issues as the need arises. Assign responsibilities to designated individuals for interpreting scientific publications and deliver condensed information on an as-needed basis. Form teams to address specific issues or problems; membership should reflect the appropriate landscape scale. Consider team player skills and abilities when forming teams and assure teams have adequate training in team dynamics. Form team(s) for the social and economic sciences to develop information needed for ecosystem management and study how best to serve CBLS and management decisions.

II-9. Design and implement processes for coordination and collaboration within and among science teams and networks. Purpose: To ensure that networks and teams deliver the best available information to CBLS efforts and managers, processes for teams and networks to work together will be needed for consensus building, analyzing new information, coordinating information gathering, setting priorities, etc. Information sharing should be a hallmark of these teams and networks, including the input by local interests and public land users. This action provides a mechanism to incorporate what is known into institutional knowledge, widely known and shared by all.

Guidance and Criteria: Establish guidelines for reaching consensus on interpretation of data and information. Establish guidelines for recommending research needs to NBS and other research entities. Establish guidelines for monitoring and analysis of activities related to ecosystem management; especially for assessing impacts to the health of the land. The process should integrate large and small scale landscape units. The process needs to be flexible and allow for adaptation. Incorporate input by local interests and public land users into the process to ensure trust and credibility.

II-10. Develop and implement criteria and techniques for assessing ecosystem health. Purpose: Assessing ecosystem health and sustainability at various landscape scales is a new challenge to natural resource management agencies and interests, requiring the reorientation of data collection and analysis techniques away from the traditional program focus. Newly developed criteria and techniques, used in concert with ecosystem health attributes (identified in Action II-4), will result in the credible collection and interpretation of ecosystem data. Both field people and others in these science networks need to work together so that one piece of data contributes to a larger body of information. The whole process should be dynamic towards achieving higher and higher knowledge if CBLS efforts and managers are to be effectively served.

Guidance and Criteria: These criteria and techniques should be guided principally by questions related to sustainability of ecosystem functions and their component parts, the incorporation of risk analysis measures, simplicity and useability. Develop processes for assessing all sizes of landscape units. Pilot

and perfect the process on selected units. Once developed, apply these processes to all landscapes. Follow-up with processes and prototypes at larger scales to assess regional health. Areas selected for prototype should have an effective ESM partnership in place which can utilize and help develop this prototype. Process needs to specify attributes used to determine ecosystem health so that follow-up monitoring and evaluation can be carried out. Build flexibility into the final recommended processes to allow for new information that is pertinent to a health assessment. Interface with other health assessments (e.g. rangeland, soil, etc.) and the establishment of standards and guidelines, as appropriate.

II-11. Develop and continually update ecological profiles for each landscape unit within the statewide hierarchy. Purpose: Consistent formats for describing landscape units will provide a ready source of information to managers, public land interests, and other partners for better science and land management. Updating these descriptions as new information becomes available, and making them subject to peer review, ensures that their content remains credible. They will serve as a tool for education and information sharing, a means of bringing new personnel and interests on board with current knowledge, and provide a lasting record to which employees and other interests can contribute.

Guidance and Criteria: Establish outlines for important information content pertinent to each landscape scale. Some of the smallest units are already being described through ecological site descriptions; other descriptions, such as plant associations might enhance this information. Watershed descriptions are already available from other sources, such as the USGS. Information for larger land units, such as ecoregions, is also available from a variety of sources. Include pertinent bibliography. Identify sensitive ecosystem components or systems at risk. Consider landscape health attributes developed in Action A-10. Consider historic and evolutionary patterns and their influence on ecosystems. Consider the nature, influence, and role of natural disturbance regimes, especially fire. Establish mechanisms for update, peer review, and distribution.

SECTION III

SUPPORTING STRATEGIES

Changing the ways we do business, as presented in this strategy, is not just another temporary initiative. Rather, it reflects a fundamental change in the role of government and in natural resource management philosophy with long lasting effects. These changes are being made in response to demands of society itself.

Most of BLM's corporate agenda and vision are addressed through this strategy (i.e. Maintaining Healthy Ecosystems, Promoting Collaborative Leadership, Improving the Way We Do Business, Managing Information Resources, and Serving Current and Future Publics). We must look at the organization as a whole, recognizing that the pursuit of organizational efficiency and the adaptation to ecosystem management go hand in hand.

Preceding sections focus on new organizational functions needed to support ecosystem management. Creating those functions will affect certain roles and responsibilities for both personnel and organizational units, as well as demand much more coordination across the state. People with the needed skills and expertise would be linked together through data systems and teams, both vertically and horizontally. While it is assumed that this can be accomplished with little or no change in the physical location of people, it will affect workloads. Therefore, as we implement this strategy for ecosystem management, we must rethink both the kinds of work that we do and how we do it. Section III considers how to reorient these areas and outlines needed training, education, and outreach activities.

As we rethink how to do work, we need to continue to explore partnerships; many opportunities remain to be explored. Linkages with state and federal agencies, local government, non- government organizations, and industry are all potentially viable options for becoming more effective. The key will be to identify common goals and objectives and work together to achieve them. At the same time, we must ensure that these partnerships remain equitable and useful. While partnerships can be extremely valuable, they can also become time consuming and expensive with little tangible progress being made.

This section acknowledges that we should not promote partnerships as the sole answer to the ecosystem management challenge, but rather we should work smartly to realize their benefits.

As we reorient to the future we shouldn't forget our past. BLM still performs essential functions indirectly related to ecosystem management. Public land records, cadastral survey, public service to records, and administrative practices are but a few examples. A key feature of the following strategies is that they are aimed at improving how BLM conducts business. BLM's ecosystem management workload is significant. CBLS and ecosystem science will require significant commitment of resources which can only be found by adjusting other workloads and working more efficiently. As we proceed with implementation, the same principles of teamwork and organizational linkages that we apply to ecosystem management can be applied to other BLM work. Of particular importance is that teams should be considered, not just within existing organizational units, but across them, both vertically and horizontally.

TASK A - ADJUSTING BUSINESS TO SUPPORT ESM

Completing the transformation of BLM to an ESM approach significantly affects certain programs, functions, roles, and positions. Other essential work should not be lost as we make these changes, instead it should be specifically identified and its importance reasserted. Wherever possible, we must continue to find new ways to do essential work more efficiently. The actions identified under this task are intended to support this transition and should be coordinated with actions identified in other sections addressing CBLS and ecosystem science. Roles, workload adjustment, FTE allocation, and processes are addressed.

ACTIONS:

III-A1. Define the roles of the State Office, District Offices, and Resource Areas relative to Ecosystem Management and to other programs and functions. Purpose: To define a state-wide organizational framework, including interrelationships among offices, needed to support ecosystem management and workload efficiency.

Guidance and Criteria: Define organizational roles that complement and support the various teams identified in this strategy, as well as those formed to do other work. As a minimum, consider the following functions in defining roles: · Providing science and data management expertise at various hierarchical scales · Location of scarce skills and expertise · Providing policy, administration, and financial support to partnerships · State-wide support of partnerships (i.e. budget, monitoring effectiveness, etc.) · Providing scientific and technical support to partnerships · Liaison with external scientific community · Interagency coordination · Media and outreach · Managing accountability for achieving results · Continuous improvement of science and CBLS efforts New roles and responsibilities need to be defined at all organizational levels relative to the landscape hierarchies. After essential and non-essential program work is reviewed (see III-A3), examine roles of offices relative to program responsibilities. Coordinate role realignments with ongoing reorganization.

III-A2. Relative to developing and practicing CBLS and ecosystem science, define the roles of management, teams, and individuals at all organizational levels and adjust position descriptions (PD's) accordingly. Purpose: To fully integrate CBLS and Ecosystem Science into the BLM organization.

Guidance and Criteria: New positions may need to be defined and adjusted as these functions become more operational. Role definition should consider the following: · professionalism in science, data management, partnership support, and other essential work. · coordinating and linking activities to make optimal use of scarce FTE. · assuring administrative and regulatory authority. · skills needed to establish trust and effective communication. Define positions needed to ensure an effective organizational component for science in BLM- Colorado. Provide career ladders that encourage appropriate science expertise and CBLS skills to remain at the field level.

III-A3. Incorporate CBLS and Ecosystem Science into State-wide Position Management Purpose: To

support an orderly transition to the formation of these new organizational features (i.e. CBLS and Ecosystem Science) while maintaining essential program activities and functions.

Guidance and Criteria: Coordinate position management with actions related to defining new roles, adjusting workloads, work efficiencies, and skills/expertise assessments. When making FTE allocations, emphasize sharing skills across organizational lines, and placing ecosystem science and data personnel according to the landscape hierarchy.

III-A4. Identify essential work in all programs and continue to explore ways to do that work more efficiently. Purpose: The primary purpose is to create a workload environment that allows certain personnel to work specifically on ecosystem science and CBLS. However, this action is also needed to ensure that other essential work is identified and efficiently done.

Guidance and Criteria: Focus work assessments on freeing personnel needed for science, data management and CBLS. Include members from all organizational units involved on work assessment teams. Give special attention to what is interfering with getting essential work done, and how to alleviate that interference. Evaluate "customer driven work" and ways to handle it more efficiently. Some efficiency may be dependent upon better coordination among offices and require vertical and horizontal teams across organizational lines. Adopt efficiency and workload models state-wide, as appropriate. Evaluate essential work against the requirements of law, processes for decision making, and managing program activities on public lands. Ask our customers for their support and cooperation in making workload adjustments. For example, livestock operators could work with range clerks for permits and billing, rather than range conservationists. Consider integrating workloads among offices and sharing skills and expertise. Adjust directives and reporting requirements in the State Office to support field implementation of ESM.

III-A5. Develop a statewide process for sharing ideas and experiences on organizational and workload efficiencies. Purpose: To share experiences, successes, and failures in finding efficiencies, including through better coordination with other agencies and among BLM offices. This might evolve into interagency meetings on the same subject.

Guidance and Criteria: Use data systems to connect area managers, program managers, teams, and staff across the State. Hold meetings specifically to discuss efficiencies. Emphasize support across administrative and organizational lines. **III-A6. Initiate a process for employee feedback to managers concerning effectiveness of empowerment efforts.** Purpose: To ensure an effective process for empowering employees and teams. **Guidance and Criteria:** Use the available "feedback matrix".

III-A7. Develop a results-oriented budget process to support ESM. Purpose: To support viable, results-oriented CBLS and ecosystem science while maintaining essential BLM programs and functions. Striking this balance will place new demands on BLM's budget processes.

Guidance and Criteria: The current Colorado budget process has several features which should be utilized, including: 1. carrying over money from year to year in support of cooperative agreements and partnerships 2. geographical pooling of monies from different sub-activities 3. earmarking and protecting monies for specifically identified tasks 4. designating pools of funding for use across district and resource area boundaries by using statewide activity numbers for coding purposes. Members of the CBLS network should be active consultants in the budget process, focused on communicating field-based ecosystem management needs through management to the state budget team. Network members can contribute the following to the budget process: · Create an annual, prioritized list of viable or potentially viable partnerships for use by the state budget team. On this list include funding sought by the partnerships for the upcoming fiscal year. Discuss these priorities with district management teams during May and present to the state budget team during June so that the input is useful for the next fiscal year. · Recommend funding limits and time limits for supporting partnerships to ensure against over dependence on BLM funds. · Identify specific science efforts to integrate into the overall list of funding priorities discussed above. · Use matching funds as one factor in determining funding priorities. The Colorado Ecosystem Partnership (CEP) might become a vehicle for cooperative, multi-agency funding. · Provide narratives to the state budget team to explain to the Washington Office why funds are being

carried over and how BLM Colorado intends to use those funds. · Serve as communication contact for the state budget team for answering questions about specific partnerships and science projects, as well as communicating back to field offices why certain requests were funded while others were not. · Serve as an accountability mechanism, reviewing actual expenditures against allocations earmarked for specific ecosystem management tasks.

Managers should continually assess the results of other actions in this section related to essential and non-essential program work, and program work efficiencies. The state budget team can then use these savings to reallocate to ESM or other priority work.

III-A8. Clarify the relationship between CBLS, Resource Management Plans, and other BLM planning documents. Purpose: To reorient future land use planning to support CBLS. This action is not intended to negate existing land use plans, nor to replace planning requirements under FLPMA. The relationship between CBLS and traditional BLM planning processes needs to be studied and carefully monitored over time to determine their relationship and effectiveness, both individually and collectively.

Guidance and Criteria: The legal requirements associated with land use planning and public involvement cannot be compromised. Land use planning will continue to be an essential decision-making tool for managing larger landscapes (e.g. locating infrastructure, setting priorities, land use restrictions, etc.). CBLS is potentially a more effective means for attaining land health relative to other land uses (e.g. grazing, oil and gas production, etc.). Some CBLS efforts may become constrained by existing plans, requiring plan amendments to support more viable solutions. A national BLM effort is underway to amend the BLM planning system and regulations. Among other things, these changes seek ways to secure greater citizen ownership in land use plans. Due to new regulatory restrictions, these new regulations are delayed. BLM-Colorado will explore this same objective through CBLS.

TASK B - PROVIDING ESM TRAINING AND EDUCATION

Initially, training and education will provide for a broad understanding and awareness of ESM principles, both internally and externally. As we learn from experience, and as ESM becomes more focused, training should be reoriented towards developing skills/expertise needed to support partnerships and science/data management, and towards improving our understanding of how to work effectively through partnerships and collaboration. Coordinated training among state and federal agencies, universities, and non-government entities can be pursued as a means of enhancing collaboration and increasing our ability to understand landscape/ecosystem functions and health.

ACTIONS:

III-B1. Develop a statewide course which introduces all employees to ESM and its organizational implications. Purpose: To provide all employees with a broad understanding of ESM and this Strategy. To provide a unifying framework for ESM efforts already underway.

Guidance and Criteria: Topics would include: What is ESM? Where are we currently practicing ESM on the ground? Connecting with local communication networks to obtain broad input and ownership of land management decisions. The role of partnerships in ESM BLM roles in current partnerships; other possible roles The role of science in ESM The "why and how" behind the proposed ESM strategy The roles to be played by BLM as a whole and by individuals such as managers, new kinds of specialists, teams, etc. Implementing ESM by using team and/or networking concepts, as appropriate. Possible roles for teams, managers and specialists in an organization that has been reoriented to ESM. The course would be designed to meet needs specific to Colorado BLM. However, close coordination is suggested with BLM's NTC, FS, DOW, NPS, EPA, universities, etc., and with adjoining states.

III-B2. Develop short and long-term ESM training programs. Purpose: To ensure that appropriate landscape sciences (physical, biological and social science) training is available to support the new roles, functions, and results envisioned by this ESM Strategy.

Guidance and Criteria: Focus short-term training on ESM principles, such as landscape sciences and

biodiversity, as well as immediate organizational changes suggested by network and team approaches. Orient long-term training to developing the specialized skills needed for ESM; these skills will be identified by the expertise and skills assessments suggested by this plan. Assess current training modules (such as team building, managing for biodiversity, etc.) to identify needs for course redesign and needs for new courses. Develop both internal and external sources for training to avoid expenditure on training which already exists outside BLM. Determine the need for interagency and inter-state training modules where landscape units cross agency and state lines. Support teams and motivated individuals by making their identified training needs a priority in each year's annual work plan. Include training for users of the new landscape data management system. (Refer to Section II.)

III-B3. Develop a training network including other federal agencies, state agencies, universities and non-government organizations. Purpose: To foster integration of skills, expertise, and missions to achieve ESM.

Guidance and Criteria: BLM should foster the network but should not necessarily take the lead. Training network should overcome state and agency boundary limitations. Training offered by the network should support efforts to collaborate within landscape units.

III-B4. Develop and provide training which specifically addresses the needs of CBLS partners. Purpose: To support the development and effectiveness of ecosystem-based partnerships.

Guidance and Criteria: BLM should be a co-provider of training. Types of training to provide may include: · Team building · Facilitation for developing issues, vision, goals, and objectives. · Basic ecology concepts and how to incorporate them into decision making · How to incorporate social science into decisions · Tools available to private parties to resolve issues and conflicts Assess and develop a catalog of training currently available from BLM and external sources.

TASK C - DESIGNING OUTREACH ACTIVITIES TO SUPPORT ESM

BLM personnel need both a common vision of ESM and a strong management commitment to achieve that vision. With these in place, BLM is in a better position to change internally and to gain support from external interests. It should be made clear that BLM is making fundamental, lasting changes in response to developing trends in government and society.

ACTIONS:

III-C1. Develop and disseminate a central message, signed by the State Director, committing BLM Colorado to ESM consistent with this strategy. Purpose: To establish a firm foundation for implementation of this strategy, and to set in place a more consistent philosophy for the effective practice of ESM.

Guidance and Criteria: Communicate in the central message that this final strategy reflects broad exposure and input from personnel at all levels of the organization. The State Director's central message should acknowledge this. Found the central message upon a thorough and consistent understanding of ESM and its organizational implications.

III-C2. Develop and implement a multi-year plan to actively promote public understanding of ecosystem management and its principles. Purpose: To build a broad support base for ESM by removing any misunderstanding that may be associated with it.

Guidance and Criteria: Direct outreach efforts regionally and locally, particularly at the community level. Communicate messages in ways in which people can relate to ESM in their personal and collective interests. BLM's message should emphasize: · The importance of a scientifically sound, consensus based approach to natural resource management · BLM's responsibility to support partnerships and provide the best available science. · That BLM represents national interests in achieving environmental objectives, i.e. improving and maintaining land health · The need for changed roles and relationships between government and citizens and among various interests Initially, this message is

- especially important to special interests such as commodity and environmental interests. Consider a variety of outreach methods: · Use of succinct message on television and through other media · Workshops for interested public, hosted on an interagency basis · Video, brochures, and media board (like recruiters use) for use at conferences · Distinct educational packages for elementary, middle and high school levels · Contract with outside firms to develop a promotional campaign · Speakers bureau · Regular attendance and presentations at community gatherings · Interagency programs to offer grants (money or expertise) for local communities to address ecosystem problems · Tours designed to increase awareness of the human relationship to the environment and sustainable uses, such as the Sheep Mountain showcase. Utilize a broad spectrum of BLM employees in addition to External Affairs.

III-C3. Provide DO and RA external affairs and customer service personnel with a more thorough understanding of ecosystem management to better assure effective communication with external interests. Purpose: To help avoid polarization of issues, particularly those in which CBLS efforts may be involved. To gain support for CBLS as the optimal ecosystem management process.

Guidance and Criteria: Directly involve DO and RA external affairs people in partnerships to provide outreach and communication skills. Provide ongoing information to the media and public which is non-confrontational and non-issue oriented, with the goal of creating a base level of knowledge about ESM approaches. Use the media and other communication channels early in the process of forming partnerships to send consistent messages to possible stakeholders. Continue to involve the media on partnership progress (e.g. issues addressed, geographic areas addressed, expected outcomes, and expected benefits). Invite the media to events, workshops, etc. concerning ESM and partnership activities.

